

SENIOR ENGINEERING SPECIALIST

PURPOSE: Under direction of a licensed engineer, perform engineering work in the design, construction, and maintenance of street, bridge, and traffic infrastructure systems and water, gas, storm sewer, and sanitary sewer utility systems.

FUNCTIONAL AREAS:

1. Perform engineering work in the design, construction, and maintenance of street, bridge, and traffic infrastructure systems and water, gas, storm sewer, and sanitary sewer utility systems.
 - A. Write specifications for transportation and utility improvements.
 - B. Estimate costs using previous bids and trends.
 - * C. Perform difficult design work.
 - D. Operate computers to prepare drawings, plans, estimates, and preliminary reports.
 - * E. Coordinate with other utilities and agencies on projects.
 - * F. Collaborate with consultants and contractors to ensure that projects are constructed properly and adhere to the same standards used for other projects and are completed on time.
 - * G. Review plans and inspect construction for conformance with standards and specifications.
2. Administer contracts and funding sources for Municipal State Aid, Municipal Turnback, and Federal Aid Projects.
 - * A. Prepare documentation for annual State Aid Maintenance, Finance and needs Reporting.
 - * B. Prepare financial reports for Municipal State Aid Funded projects.
 - * C. Prepare financial reports for federal funded projects using the delegated contract process.
 - * D. Write technical and environmental narratives for project memorandum.
 - * E. Administer Federal and State Aid contracts.
 - * F. Participate with and assist the City Engineer in State Screening Board meetings.
3. Organize and direct the activities of assigned personnel.
 - * A. Determine priorities, assign work, and coordinate schedules of assigned personnel.
 - * B. Monitor work sites to ensure compliance with established methods, guidelines, standards, and procedures.
 - * C. Train personnel in correct and safe operating procedures.
 - * D. Direct all work to accomplish assignments in the safest manner possible.

4. Administer the Street Improvement Program.
 - * A. Develop a five year plan for street improvements.
 - * B. Schedule and facilitate public meetings.
 - * C. Establish annual calendar of public meetings, project management activities, and financial deadlines.
 - * D. Coordinate work activities with engineering consultants.
 - * E. Troubleshoot and resolve program problems.
 - * F. Attend meetings as required.
 - * G. Assist the Special Assessment Board in establishing current assessments and develop projections for future assessments.
5. Perform related work.
 - A. Prepare technical reports.
 - * B. Prepare petitions for transportation and utility improvements.
 - * C. Investigate, prepare, and present information at public hearings.
 - D. Prepare council resolutions for projects.
 - * E. Investigate citizen complaints and provide answers to their questions.
 - F. Represent or assist the City Engineer at various meetings and activities.
 - G. Assist in developing and administer capital, asset management, and maintenance programs.

JOB REQUIREMENTS

1. License Requirements:
 - A. Possession of a valid Minnesota Driver's License or equivalent by date of appointment and thereafter.
2. Education and Experience Requirements
 - A. Ten (10) years of verifiable education and experience in civil engineering technology; or
 - B. Three years experience as a Senior Engineering Technician or Senior Engineering Technician (#) with the City of Duluth.
3. Knowledge Requirements
 - ** A. Knowledge of algebra, geometry, and trigonometry.
 - ** B. Knowledge of technical engineering principles and practices.
 - ** C. Knowledge of principles, methods, equipment, and materials used in construction of streets, sidewalks, water and gas mains, sanitary and storm sewers, and various public works structures.
 - D. Knowledge of traffic engineering principles.
 - ** E. Knowledge of design and layout methods.
 - ** F. Knowledge of regulatory agencies affecting design and construction.
 - ** G. Knowledge of applicable safety principles and practices.

- ** H. Knowledge of the principles of technical writing.
- ** I. Knowledge of federal, state, and local legislation affecting departmental operations and appropriate professional design standards.
- ** J. Knowledge of various funding sources for municipal projects.
- ** K. Knowledge of the design and administration of databases
- ** L. Knowledge of State Aid rules for plan preparation, construction quantity, documentation, maintenance, drainage and needs reporting.

4. Skill Requirements:

- ** A. Skill in drafting, mapping, and surveying.
- ** B. Skill in the operation of drafting and surveying equipment.
- ** C. Skill in presenting technical and complex information in a user-friendly way to small and large groups.
- ** D. Skill in writing technical memoranda and reports.

5. Ability Requirements:

- ** A. Ability to operate computers and CAD systems.
- ** B. Ability to apply standard engineering principles to utility and other public work improvements.
- ** C. Ability to prepare specifications, plans, technical reports, resolutions, and petitions.
- ** D. Ability to perform supervised design and layout work.
- ** E. Ability to communicate effectively in oral and written forms.
- F. Ability to attain and maintain state certification requirements.
- ** G. Ability to establish and maintain effective working relationships with co-workers, supervisors, contractors, consultants, outside agencies, and the general public.
- H. Ability to provide training to co-workers.
- ** I. Ability to transport oneself to, from, and around worksites.
- J. Ability to work outside year round.
- K. Ability to walk for long distances.
- L. Ability to remove and install manhole covers.
- M. Ability to transport and erect survey equipment up to 50 pounds.
- * N. Ability to attend work on a regular basis.
- * Essential functions of the job.
- ** Job requirements necessary on the first day of employment.

Anlst: KG	Date:
Union: Basic	Pay: 34
CSB: 20010206	
CC: 20010326	Res: 01-0129R